

REMARKS

New claims 23–40 are presented for examination. The Examiner rejected all pending claims in the parent case (serial no. 10/814,364) 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,335,011 to Addeo et al. (“Addeo”) in view of Japanese Patent Publication 10-042264 by Nakamura (“Nakamura”). However, the newly presented claims are patentable over this combination for at least the reasons set forth below.

The Cited References

Addeo purportedly discloses a videoconferencing device containing certain elements of Applicants’ claims. In the parent case, Examiner conceded that Addeo did not teach a videoconferencing bar comprising a video sensor, a plurality of microphones, and a plurality of speakers arranged in fixed positions in the videoconferencing bar as required by the claims pending in that case. Examiner proposed Nakamura to supply this missing limitation. As noted in arguments filed in the parent case, the combination of Addeo with Nakamura is improper. However, the videoconferencing bar limitation does not appear in new claims. Therefore, only the differences between new claims 23–40 and Addeo are addressed herein.

Applicants’ Claims

Each of Applicants’ claims require a videoconferencing system that will, among other things, “produce ... an audio stream and an audio source position signal from signals received from the [plurality of] microphones, wherein the audio source position signal is based upon the magnitude differences of captured sound from the plurality of microphones.” Thus, the claims require comparing different magnitudes of signals received by each of a plurality of microphones to determine the direction from which the received sound emanated. Conversely, Addeo uses beamforming to determine the direction from which received sounds emanate. Specifically:

[T]he microphone array 150 ... successively “scans”, *i.e.*, forms a highly directional beam in each volume zone 151–159. If a sound is detected in a particular zone, the microphone array control device 160 illustratively causes the microphone array 150 to maintain a beam in that particular zone. In effect, the microphone array control device 160 lowers the volume of the sound in the other zones, *i.e.*, the microphone array 150 becomes “more deaf” in these other zones.

Addeo at col. 5, ll. 2–13.

As is known to those skilled in the art, beamforming takes advantage of the phase delay among signals received at a plurality of spatially-separated receptors to selectively increase the sensitivity of the array in a particular direction while selectively decreasing the sensitivity of the array in other directions. Addeo operates by sequentially forming a beam into each of a plurality of zones. If sound is detected in a particular zone (*i.e.*, the aggregate of signals for the array in a particular beamformed configuration), it is compared to sounds from the other zones (also an aggregate of signals for the array in a different beamformed configuration) and the loudest zone is selected. Thus, the magnitude differences Addeo describes are the magnitude differences of the total array in a plurality of beamformed configurations. Ultimately, Addeo is relying on phase, not magnitude, differences from the plurality of microphones to determine the direction of the sound and generate the position signal.

Conversely, each of the pending independent claims requires producing an audio source position signal “based upon the magnitude differences of captured sound from the plurality of microphones.” Thus, the claims clearly require that the magnitudes of the signals received at each microphone be compared to determine the direction of the sound source, which is neither taught nor suggested by Addeo.

Conclusion

For at least the reasons stated above, each and every pending claim is allowable over the cited art of record. A notice of allowance for these claims is therefore requested.

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Respectfully submitted,

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Date

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